

COMPLETE LISTING OF CLAIMS
IN ASCENDING ORDER WITH STATUS INDICATOR

5. (Original) A planar dielectric integrated circuit, comprising:

a first planar dielectric line comprising: a first slot which is provided by disposing two conductors at a fixed distance apart on a first main surface of a dielectric plate, and a second slot, which opposes the first slot and is provided by disposing two conductors at a fixed distance apart on a second main surface of said dielectric plate, with a region sandwiched between said first slot and said second slot being provided as a plane-wave propagation region;

a dielectric resonator provided by a pair of mutually opposing conductor-free portions within corresponding ones of said conductors on said first and second main surfaces of said dielectric plate, said dielectric resonator being electromagnetically coupled to said first planar dielectric line;

a slot line provided at an end portion of said first planar dielectric line on said dielectric plate;

line conversion conductor patterns which are connected to said first planar dielectric line and which are used to perform mode conversion between said first planar dielectric line and said slot line; and

electronic components disposed in such a manner as to be extended over said slot line.

6. (Original) The circuit of claim 5, further comprising:

a second planar dielectric line comprising: a third slot which is provided by disposing two conductors at a fixed distance apart on said first main surface of said dielectric plate, and a fourth slot, which opposes the third slot and is provided by disposing two conductors at a fixed distance apart on said second main surface of said dielectric plate,

with a region sandwiched between said third slot and said fourth slot being provided as a plane-wave propagation region;

said second planar dielectric line being electromagnetically coupled to said dielectric resonator.

7. (Original) The circuit of claim 6, wherein said dielectric resonator is coupled to an end of said second planar dielectric line.

8. (Original) A planar dielectric integrated circuit, comprising:

a first planar dielectric line comprising: a first slot which is provided by disposing two conductors at a fixed distance apart on a first main surface of a dielectric plate, and a second slot, which opposes the first slot and is provided by disposing two conductors at a fixed distance apart on a second main surface of said dielectric plate, with a region sandwiched between said first slot and said second slot being provided as a plane-wave propagation region;

a slot line provided at an end portion of said first planar dielectric line on said dielectric plate;

line-conversion conductor patterns which are connected to said first planar dielectric line and which are used to perform mode conversion between said first planar dielectric line and said slot line; and

electronic components disposed in such a manner as to be extended over said slot line.

9. (Original) The circuit of claim 5, further comprising:

a conductive plate adjacent at least one of the first and second main surfaces of the dielectric plate, the conductive plate having at least one groove in a surface thereof, the at least one groove opposing at least one of the first planar dielectric line, the slot line and the line-conversion conductor patterns.

10. (Original) The circuit according to claim 9, wherein a width of the at least one groove is greater than a width of the first planar dielectric line.

11. (Original) The circuit according to claim 10, wherein the width of the at least one groove is set such that a cut-off area is formed, the cut-off area having a propagation frequency which is higher than a desired propagation frequency of the plane-wave propagation region.

12. (Original) The circuit according to claim 11, wherein a depth of the at least one groove is set such that a cut-off area is formed, the cut-off area having a propagation frequency which is higher than a desired propagation frequency of the plane-wave propagation region.

13. (Original) The circuit according to claim 6, further comprising:
at least one conductive plate adjacent one of the first and second main surfaces of the dielectric plate, the conductive plate having at least one groove in a surface thereof, the at least one groove opposing at least one of the first planar dielectric line, the slot line, the line-conversion conductor patterns, and the second planar dielectric line.

14. (Original) The circuit according to claim 13, wherein a width of the at least one groove is greater than a width of one of the first planar dielectric line and the second planar dielectric line.

15. (Original) The circuit according to claim 14, wherein the width of the at least one groove is set such that a cut-off area is formed, the cut-off area having a propagation frequency which is higher than a desired propagation frequency of the plane-wave propagation region.

16. (Original) The circuit according to claim 15, wherein a depth of the at least one groove is set such that a cut-off area is formed, the cut-off area having a propagation

frequency which is higher than a desired propagation frequency of the plane-wave propagation region.

17. (Original) The circuit of claim 8, further comprising:

a conductive plate adjacent at least one of the first and second main surfaces of the dielectric plate, the conductive plate having at least one groove in a surface thereof, the at least one groove opposing at least one of the first planar dielectric line, the slot line and the line-conversion conductor patterns.

18. (Original) The circuit according to claim 17, wherein a width of the at least one groove is greater than a width of the first planar dielectric line.

19. (Original) The circuit according to claim 18, wherein the width of the at least one groove is set such that a cut-off area is formed, the cut-off area having a propagation frequency which is higher than a desired propagation frequency of the plane-wave propagation region.

20. (Original) The circuit according to claim 19, wherein a depth of the at least one groove is set such that a cut-off area is formed, the cut-off area having a propagation frequency which is higher than a desired propagation frequency of the plane-wave propagation region.